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ABSTRACT

Problems which frustrate and hinder training in data base use for personnel employed in biomedical libraries include the ever increasing number of data bases which continue to be introduced, search techniques that differ from vendor to vendor and data base to data base, and differing formats of data bases and their training manuals. Training sessions and institutes are offered by commercial vendors, library and other professional associations, and library schools. The training process should be divided into the mechanical details of interacting with the computer, and knowledge of the subject area and its terminology to allow for informed interaction. Training should also be geared to the varied backgrounds and experiences of trainees; a clearinghouse for training information should be established; and surveys of costs and evaluations of training programs should be undertaken. (Author/MBF)

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ONLINE DATA BASE EDUCATION RESPONSIBILITY: INSTITUTIONAL USER

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TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC) AND
USERS OF THE ERIC SYSTEM."

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Although they have become almost commonplace, we sometimes forget that online data bases are only 10 years old. Biomedical librarians have been among the earliest users, because MEDLINE and other data bases from the National Library of Medicine were among the earliest to become operational. This experience has proven to be extremely valuable. Recent information needs of biomedical scientists, however, have cut across traditional subject fields and have expanded into fields not previously considered to be within the purview of biomedicine. It is not surprising, therefore, that we have become early and consistent users and supporters of non-biomedical data bases, such as Psychological Abstracts, BIOSIS, NTIS, ERIC, etc.

The number of data bases constructed and the number going online increases almost every month. Williams* estimated that in 1976 there were 275 data bases that were substantive in size and 200 highly specialized ones of limited size available in the U. S. and in other

*Williams, Martha E., Education and Training for Online Use of Data Bases, Journal of Library Automation, V. 10, December 1977, p. 322.

countries, of which about one third were online.

Most of the online data bases of interest to biomedical librarians other than those from NLM have been available from two commercial vendors--Systems Development Corporation (SDC) and Lockheed Dialog. It was SDC that was awarded the contract to develop MEDLARS. SDC used many of those same programs and search strategies in making available other data bases for which they serve as the vendor. Biomedical librarians have, therefore, found a certain carryover in accessing non-MEDLARS data bases via SDC.

Somewhat more recently, a third vendor has come into existence--Bibliographic Retrieval Services, Inc. BRS has a User Board composed of user representatives who participate in their decision-making process. BRS has been instrumental in making available data bases of particular interest to biomedical librarians at costs somewhat lower than those from the other two vendors.

There is no question that online data base searching has become a much-used method of finding out what has been published in a given field. The vendors have advertised widely in journals, by direct mail, at exhibits, at meetings and at conferences directed to both biomedical scientists and librarians. Each of these two groups has brought new data bases to the attention of the other, thus generating still more interest.

We have been asked to speak to the issue of education in the use of data bases for those working in biomedical libraries, yet we cannot do so without referring to the problems which frustrate and hinder training in their use. These problems have arisen because of the speed with

which the data bases have been and continue to be introduced by the vendors' marketing practices, by search techniques that differ from vendor to vendor and from data base to data base, and by differing formats of the data bases and their training manuals.

Most data bases are obtained by vendors from the organizations that have constructed them. Although the vendors test and sample, it is difficult for them to evaluate the quality and comprehensiveness of the subject and time coverage. Were subject specialists employed? Were indexing specialists employed? Were there reasonably complete guidelines and regulations? Were they followed? Were key words, a controlled vocabulary, or a combination of both used? Let us remember that no matter how knowledgeable and how well trained the searcher, the quality and comprehensiveness of the end product cannot exceed that of the data base.

When accessing data bases from different vendors, we encounter still another problem. Each vendor employs different methods for dialing up, for logging in, for commands, for search strategies, for input of terms such as formulation of chemical compounds, and abbreviations for correcting errors and requesting offline printouts. Ironically enough, it was Cuadra* formerly of SDC who in 1971 pointed out that, "If a user wants to search the NASA file, he will need to know how to use the RECON system; if he wants to search the National Library of Medicine file, he will need to know how to use the AIM-TWX system; if he wants to search the ERIC or MARC files, he will need to know how to use still other systems."

*Cuadra, Carlos A., On-Line Systems: Promise and Pitfalls. Journal of American Society of Informational Science. V. 4, Mar-Apr. 1971. p. 114.

We, along with others,* believe that library and information associations should direct their attention to standardization of content, access and search strategy. We are aware of one such committee--the Committee for Data Base Standardization of the ALA Reference and Adult Services Division, Machine Assisted Reference Section. Standardization will reduce training and retraining time of analysts and therefore costs. Standardization will also increase data base usage, because searchers will be able to access more data bases without additional training.

Perhaps the biggest problem, as we see it, is marketing practices which sometimes border on the deceptive. The ads imply that access is easy and cheap. For example, a Lockheed Dialog ad** is headed, "Announcing the era of the \$5 search." Only online charges are given, but these are simply the tip of the iceberg. Nowhere in this carefully designed ad is there mention of:

1. Royalty fees
2. The time and cost of the reference interview, the formulation of search strategy and final evaluation, i.e., all the "before and after" costs
3. Costs of training and retraining of search analysts
4. Initial cost of terminal and service contract
5. Overhead and recordkeeping costs
6. Cost of paper and other supplies

These costs, which may or may not be immediately apparent, must be included in any realistic account of costs.

Communication costs are mentioned in the ad, but here, too, there is deception. We quote from the ad: "TELENET access down from \$8 to \$5 per hour." TELENET has a three-level rate schedule. The rates for certain

*Eynon, Christine, Terminal Jabberwocky of Retrieval Networks, Special Librarian, V. 67, April 1976, p. 219.

**Online, V. 1, April 1977, p. 82-83.

cities have been reduced from \$6.40 to \$6.00 per hour. Rates for other cities have recently been increased from \$3.00 per hour to \$4.00 per hour, and rates for the third level have remained at \$4.00 per hour. For those libraries located in certain cities, the rate is \$6.00 per hour, not \$5.00. This is simply an average figure.

Seldom do the advertisements mention duplication and overlapping of data bases by different vendors. Seldom do they mention that searching sometimes crosses several data bases because of the interdisciplinary nature of more and more search requests.

We are devoting time to these issues because, like it or not, a good deal of what we learn about new library development is via advertisements. Unlike breakfast cereal ads, they are important and valuable tools for those of us who can snatch but a few moments now and then to keep up-to-date.

During its early history, MEDLINE searchers were trained in exhausting, three-week sessions in Bethesda, Maryland. The basic training course has been shortened to one week with the proviso that, prior to attending, searchers complete MEDLEARN, a programmed online instruction package. Also offered are one-week advanced training courses. Both courses offer structured, "hands-on" experience at the terminal, which we feel is an important component of any training program. These courses are held in different cities across the country and at different times, depending upon requests for such training. Periodic, one-day updates are given in conjunction with regional and national library meetings; MEDLINE searchers are urged to attend. Two additional means for keeping abreast of changes are the monthly newsletter, "MEDLARS Technical Bulletin," and announcements entitled "Broadcast Messages" and "News" which follow logging in at the terminal.

This account is not meant to imply that this system of training and updating is the best of all possible systems. There are flaws. It is still possible to miss some crucial new development because no searching was done for the week during which an announcement appeared.

Training sessions and institutes are offered in cities across the country by the commercial vendors, by library and other professional associations and by library schools. We will mention firstly the sessions offered by vendors. The number is substantial. We found, for example, that twenty sessions were offered during the month of October in 1977 by SDC and seven were offered by Lockheed Dialog during this same month.

In addition to these training sessions, there has developed a plethora of users manuals and of online training programs such as Lockheed's ON TAP (ONline Training And Practice) and MEDLEARN, to which we alluded earlier in this talk. As a further help for those librarians who cannot afford to attend numerous training sessions, they can subscribe to two new journals that have recently started publication--Online and Online Review. To show the interest that has developed in training, one of the major papers given at the well-attended conference* on online searching dealt with training.

We see the training process as dividing itself into two parts. The first consists of the mechanical details of logging in, interacting with the data base and printing out the data; the second consists of a knowledge of the subject area and its terminology in sufficient scope and depth to allow for informed interaction with the client and the data base.

*Online Revolution in Libraries, the 2nd Annual Pittsburgh Conference, November 1977.

There are several schools of thought concerning the way training should proceed. Caruso* avers it takes about ten hours to master the mechanics of interacting with the data base via the computer terminal and that mastery of the mechanics should precede training in search strategy. The MEDLINE training institutes, on the other hand, begin with the theory, then review briefly the content of the data bases, then the mechanics and end with "hands-on" terminal experience. Since the field is so new, we know of no evaluation of the effectiveness of one or another training model. The announcement of the establishment of an Online Training Center at the University of Pittsburgh is a welcome development. We also would benefit from a clearinghouse for training information. Perhaps the Center will take on this activity as one of its functions. For medical libraries, it will be possible to train more librarians if the training can proceed inhouse. Inhouse training can be accomplished sooner.

A good case can be made for different approaches to training based on background. Those searchers who have an understanding of computer technology or of the subject field in some depth will have less difficulty. Once a searcher has acquired some experience, he or she has usually absorbed the principles of data base searching, and learning to search each succeeding data base takes less time. By custom-tailoring the training process to the background and experience of the librarian, we would produce searchers in less time and at less cost.

Once a librarian has been trained to search a data base, he or she has to be constantly alerted to changes in searching techniques and changes in the data. Keeping up-to-date may prove the equal in time and cost to the initial learning phase, especially for those who do not search frequently.

*Online, July, 1977, p. 67.

For biomedical library administrators, the costs of training and retraining searchers cannot be overlooked. These include:

1. Time away from the job while salary continues
2. Transportation and accommodations
3. Tuition for attending training sessions
4. Subscriptions to newsletters and journals
5. Telephone calls to vendors
6. Time to practice updating skills online

In truth, we know little about the costs of training. A systematic survey would be most useful, taking into account the many hidden costs, including those just mentioned. Fortunately, vendors are now taking responsibility for subsidizing training sessions, for providing free telephone access and for newsletters. The support is welcomed, but these represent but a small portion of the costs. Additional assistance should be provided in notifying libraries of changes and modifications before they are implemented.

Having given vent to our frustrations with online data bases that "grewed like Topsy" and with questionable advertising practices, the listener might conclude we are opposed to online data bases. Quite the contrary. We are critical because we are firm advocates. We believe that those who construct data bases and the vendors who make them available should take the needs of the users into account. Efforts should be encouraged for library associations and others to standardize the mechanics of searching online data bases.

We are pleased with the attention being paid to training programs, particularly inhouse instruction. We know that lack of proper training results in wasted connect time and poor searching. We suggest that training programs be geared to the varied backgrounds and experiences of librarians, that a clearinghouse for training information be established and that surveys of costs and evaluations of training programs be undertaken.

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